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(54) NOISE STOP ELEMENT

(57) Abstract:

PURPOSE: To attain miniaturization while improving high-frequency characteristics by mounting a thin-film inductance element formed so as to be wrapped with soft magnetic multilayer films, in which amorphous ferromagnetic layers and crystalline nonmagnetic layers are superposed alternately, into a vessel having the same terminal array as a package for an integrated circuit.

CONSTITUTION: With soft magnetic multilayer films 21 and 22, amorphous magnetic films 23, main film compositions of which are composed of $(CoZrNb)_{50}F_{40}$ and which mainly comprise a halogen element and a ferromagnetic element, and crystalline nonmagnetic films 24, film compositions of which consist of $(CoZrNb)_{40}F_{60}$, are superposed alternately, and they are formed in multilayer films having excellent high-frequency characteristics as a whole. Electric conductive films 25 are shaped from a coil-shaped Cu film, and the intermediate section of two windings and the outside of the whole are wrapped with an electric insulating film 26 composed of SiO_2 . When the insulated and covered coil is wrapped with the soft mag-

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netic multilayer films 21 and 22, a thin-film inductance element 13 in two layers and one line is formed accordingly, the inductance element 13 is set in a package having the same type as a package for an integrated circuit and constituted, thus manufacturing a small-sized noise stop element having excellent high-frequency characteristics and being proper to be combined with the integrated circuit.

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